EDEM1 Antibody / ER degradation-enhancing alpha-mannosidase-like protein 1 (FY12592)

Catalog No.	Formulation	Size
FY12592	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml	100 ug

Bulk quote request

Availability	1-2 days
Species Reactivity	Human, Mouse, Rat
Format	Lyophilized
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Immunogen affinity purified
Buffer	Each vial contains 4 mg Trehalose, 0.9 mg NaCl, 0.2 mg Na2HPO4.
UniProt	Q92611
Applications	Western Blot : 0.25-0.5ug/ml Flow Cytometry : 1-3ug/million cells ELISA : 0.1-0.5ug/ml
Limitations	This EDEM1 antibody is available for research use only.

Description

EDEM1 antibody detects ER degradation-enhancing alpha-mannosidase-like protein 1, an essential quality-control enzyme involved in the endoplasmic reticulum-associated degradation (ERAD) pathway. EDEM1 recognizes misfolded glycoproteins, trims mannose residues, and targets them for degradation via the ubiquitin-proteasome system. The EDEM1 antibody is widely used in cell biology, proteostasis, and molecular quality-control studies to examine protein folding, glycoprotein degradation, and ER stress responses.

EDEM1 is encoded by the EDEM1 gene located on human chromosome 3p26.1. The protein is approximately 766 amino acids in length and belongs to the glycosyl hydrolase 47 family. EDEM1 localizes to the lumen of the endoplasmic reticulum, where it associates with chaperones such as calnexin and BiP. It functions by accelerating the removal of mannose residues from misfolded glycoproteins, signaling their export from the ER for proteasomal degradation.

The EDEM1 antibody detects an 85 kilodalton band in western blot assays and exhibits reticular ER staining under confocal microscopy. EDEM1 plays a pivotal role in maintaining proteostasis by preventing accumulation of misfolded proteins, thereby protecting cells from ER stress-induced apoptosis. Under stress conditions, expression of EDEM1 is

upregulated through the unfolded protein response (UPR), particularly by transcription factors ATF6 and XBP1.

Dysregulation of EDEM1 contributes to neurodegenerative diseases, diabetes, and cancer, where chronic ER stress leads to cell dysfunction. In addition to its role in degradation, EDEM1 fine-tunes glycoprotein folding efficiency and influences secretion rates of correctly folded proteins. Because EDEM1 acts upstream of ERAD, it serves as an early determinant of glycoprotein fate within the secretory pathway.

Through its key role in ER quality control, EDEM1 ensures fidelity of protein folding and cellular homeostasis. NSJ Bioreagents provides a validated EDEM1 antibody optimized for western blot, immunofluorescence, and ER stress pathway analysis, supporting research into protein quality control, glycoprotein maturation, and cellular stress adaptation.

Application Notes

Optimal dilution of the EDEM1 antibody should be determined by the researcher.

Immunogen

E.coli-derived human EDEM1 recombinant protein (Position: P124-I657) was used as the immunogen for the EDEM1 antibody.

Storage

After reconstitution, the EDEM1 antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.